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(71) Applicant (for all designated States except US): **PCBU SERVICES, INC.** [US/US]; 300 Delaware Avenue, Suite 1269, Wilmington, DE 19801 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOGGS, Janet** [US/US]; 6925 N. 900 East, Brownsburg, IN 46112 (US). **BRANDSTADTER, Stephan, M.** [US/US]; 3946 N. Washington Boulevard, Indianapolis, IN 47906 (US). **CHIEN, John** [US/US]; 3318 Humbolt Street, West Lafayette, IN 47906 (US). **SHARMA, Vimal** [IN/US]; 2101 Cumberland Avenue, 5104, West Lafayette, IN

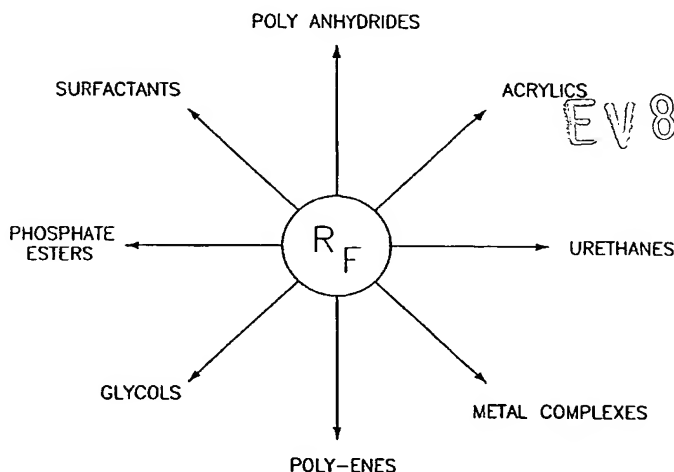
47906 (US). **EDWARDS, E., Bradley** [US/US]; 3704 Woodcliff Drive, Lafayette, IN 47905 (US). **HEDRICK, Victoria** [US/US]; 9262 South 300 E., Brookston, IN 47923 (US). **JACKSON, Andrew** [US/US]; 3346 Whirl Away Court, West Lafayette, IN 47906 (US). **LEMAN, Gregory** [US/US]; 3319 Crawford Street, West Lafayette, IN 47906 (US). **NORMAN, Edward** [US/US]; 942 St Matthews Road, Chester Springs, PA 19425 (US). **KAUFMAN, Robert** [US/US]; 8129 Stanford Ave., St. Louis, MO 63130 (US).

(74) Agents: **HYTA, Robert, C. et al.**; Wells St. John, P.S. 601 West First Ave., Suite 1300, Spokane, WA 99201-3828 (US).

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(54) Title: PRODUCTION PROCESSES AND SYSTEMS, COMPOSITIONS, SURFACTANTS, MONOMER UNITS, METAL COMPLEXES, PHOSPHATE ESTERS, GLYCOLS, AQUEOUS FILM FORMING FOAMS, AND FOAM STABILIZERS



(57) Abstract: Production processes and systems are provided that include reacting halogenated compounds, dehalogenating compounds, reacting alcohols, reacting olefins and a saturated compounds, reacting reactants having at least two -CF<sub>3</sub> groups with reactants having cyclic groups. R<sub>F</sub> compositions such as R<sub>F</sub>-intermediates, R<sub>F</sub>-surfactants, R<sub>F</sub>-monomers, R<sub>F</sub>-monomer units, R<sub>F</sub>-metal complexes, R<sub>F</sub>-phosphate esters, R<sub>F</sub>-glycols, R<sub>F</sub> urethanes, and/or R<sub>F</sub>-foam stabilizers. The R<sub>F</sub> portion can include at least two -CF<sub>3</sub> groups, at least three -CF<sub>3</sub> groups, and/or at least two -CF<sub>3</sub> groups and at least two -CH<sub>2</sub>- groups. Detergents, emulsifiers, paints, adhesives, inks, wetting agents, foamers, and defoamers including the R<sub>F</sub>-surfactant composition are provided. Acrylics, resins, and polymers are provided that include a R<sub>F</sub>-monomer unit. Compositions are provided that include a substrate having a R<sub>F</sub>-composition thereover. Aqueous Film Forming Foam ("AFFF") formulations are provided that can include R<sub>F</sub>-surfactants and/or R<sub>F</sub>-foam stabilizers are provided.

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**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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